

## PATENT ABSTRACTS OF JAPAN

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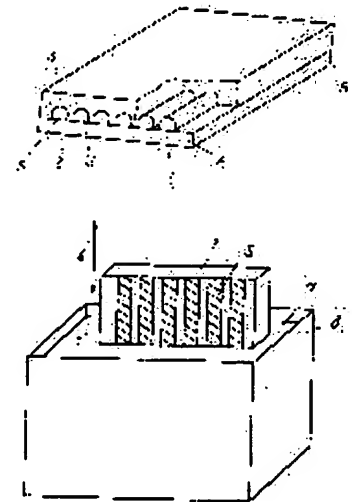
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## (54) PRODUCTION OF OPTICAL WAVEGUIDE

## (57)Abstract:

PURPOSE: To easily obtain the optical waveguide of a low loss by printing a surfactant in the form of stripes on a low-refractive index resin sheet, immersing the sheet into a high-refractive index transparent liquid material to form the high-refractive index transparent liquid material in the form of stripes, curing the material and packing a low-refractive index resin therein.

CONSTITUTION: The stripe patterns of the surfactant 5 are applied at a prescribed pitch on the sheet 2 formed of the low-refractive index resin and the sheet is immersed into the high-refractive index transparent liquid material 7 and is pulled up to form the high-refractive index transparent liquid material 7 only on the surface on which the surfactant 5 is printed. The high-refractive index transparent liquid material 7 is cured immediately thereafter to form cores 3 on the low-refractive index resin sheet 2. The low-refractive index resin 4 in the form of liquid is packed thereon and is cured to form the high-polymer optical waveguides. The need for large-scale equipment is eliminated in this way and the arbitrary setting of an aperture angle is possible by selecting the respective refractive indices of the low-refractive index material and the high-refractive index material, by which the optical waveguide of a low loss is obt'd.



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